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Test Valley Local Plan Review
Sites 86 to 91 Land at Warren Farm, North Baddlesley Hampshire

Agricultural Land Classification
ALC Map and Report

May 1997

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION SUMMARY REPORT

TEST VALLEY LOCAL PLAN REVIEW
SITES 86 TO 91 LAND AT WARREN FARM
NORTH BADDESLEY HAMPSHIRE

SEMI DETAILED SURVEY

INTRODUCTION

1 This summary report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey on approximately 105 hectares of land at Warren Farm North Baddesley to the south east of Romsey south Hampshire The field survey work was carried out during February 1997

2 The survey was commissioned by the Ministry of Agriculture Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the Test Valley Local Plan Review The results of this survey supersede any previous ALC information for this land

3 Prior to 1 April 1997 the work was conducted by members of the Resource Planning Team in the Guildford Statutory group of ADAS After this date the work was completed by the same team as part of the Farming and Rural Conservation Agency (FRCA, Reading) The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988) A description of the ALC grades and subgrades is given in Appendix 1

4 At the time of survey the majority of the site had been ploughed Two smaller areas of permanent grassland were found in the extreme north and south of the survey area The Other Land category includes agricultural buildings and their associated infrastructure industrial storage warehousing and woodland

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map The map has been drawn at a scale of 1 10 000 It is accurate at this scale but any enlargement would be misleading

6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 below

7 The fieldwork was conducted at an average density of 1 boring for every 2 hectares A total of 59 borings and five soil inspection pits were described

8 Land on this site has been classified in the range Grade 2 (very good quality agricultural land) Subgrade 3a (good quality agricultural land) and Subgrade 3b (moderate quality agricultural land)

Table 1 Area of grades and other land

Grade/Other land	Area/Other land	/ Surveyed area	/ Total site area
2	6 3	6 7	5 9
3a	50 6	54 4	48 1
3b	36 2	38 9	34 4
Agricultural land not surveyed			
Other land	12 2		11 6
Total surveyed area	93 1	100	88 4
Total site area	105 3		100

9 Grade 2 land comprises deep well to moderately drained clay loams which become heavier and less permeable with depth Land assigned to this grade has minor limitations of soil wetness

10 Subgrade 3a land has soils that are broadly similar to Grade 2 but the wetness limitation is more pronounced occurring at shallower depths In addition, some Subgrade 3a land has a very stony lower subsoil which reduces the available water to plants and creates a moderate droughtiness limitation

11 Subgrade 3b land has a mixture of limitations mostly wetness and droughtiness but with areas affected by topsoil stones and a very small area that has been disturbed Land affected by a significant wetness limitation is related to shallow clay layers that are poorly structured and which significantly restrict the number of days when the land is in a suitable condition for cultivation or grazing by livestock Land affected by a significant droughtiness limitation occur where the soil horizons are stony throughout over gravel deposits in the lower subsoil Some soils in the north of the main Subgrade 3b map unit show clear patches of very stony topsoils which cause a significant limitation acting as an impediment to cultivation harvesting and crop growth and cause a reduction in the available water capacity of the soil

FACTORS INFLUENCING ALC GRADE

Climate

9 Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics

10 The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met Office 1989)

11 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions

12 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR) as a measure of overall wetness and accumulated temperature (ATO January to June) as a measure of the relative warmth of a locality

Table 2 Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU 383 219	SU 383 210
Altitude	m AOD	30	45
Accumulated Temperature	day°C (Jan June)	1519	1503
Average Annual Rainfall	mm	817	819
Field Capacity Days	days	175	175
Moisture Deficit, Wheat	mm	108	107
Moisture Deficit Potatoes	mm	102	100
Overall climatic grade	N/A	Grade 1	Grade 1

13 The combination of rainfall and temperature at this site show that there is no overall climatic limitation affecting the site The site is climatically Grade 1

Site

14 The site lies at an altitude of 30 45 metres AOD with the highest land situated around Warren Farm and the lowest found in the extreme south west of the site No other site limitations affect the survey area

Geology and soils

15 The most detailed published geological information for the area (BGS 1973) maps the site as the Earnley Sand (Bracklesham Group) with a small outcrop of the Wittering Formation in the north The Earnley Sand to the west is entirely covered by River Terrace and Head Gravel Deposits To the south there are less extensive drift deposits

16 The most detailed published soils information for the area (SSEW 1983) shows the site to be mapped predominantly as the Wickham 3 Association Slowly permeable seasonally waterlogged fine loamy over clayey and coarse loamy over clayey soils and similar more permeable soils with slight waterlogging Some deep coarse loamy soils affected by groundwater (SSEW 1984) To the west are mapped soils of the Hamble 2 Association Deep stoneless well drained silty soils affected by groundwater over gravel locally

AGRICULTURAL LAND CLASSIFICATION

17 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1 page 1

18 The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II

Grade 2

19 Grade 2 (very good quality) agricultural land occurs centrally This land is affected by a slight soil wetness and soil droughtiness limitation as observed Pit 4

20 Typically Grade 2 profiles comprise deep very slightly to slightly stony medium loam topsoils (MCL MZCL or MSZL Appendix II) These pass into slightly stony similarly textured upper subsoils From approximately 50 cm lower subsoils are slightly to moderately stony heavy clay loams passing occasionally into clays or very stony layers at depth

21 These Grade 2 soils experience a slight soil wetness limitation related to the presence of gleying below 40cm and a slowly permeable layer in the lower subsoil The structures in the lower subsoil were assessed as weakly developed coarse subangular blocky This degree of wetness places these soils in Wetness Class II This wetness class in combination with the topsoil textures and the prevailing field capacity level (175 FC days) restricts this land to Grade 2 This limitation will restrict the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock

22 This land also experiences a slight soil droughtiness limitation The combination of textures depths structures and stone contents means that there is insufficient water for crop growth at critical times of the season Structural conditions in the lower subsoil have been assessed as poor and there may be stony horizons at depth (containing up to 45% stone) As a result the consistency of crop yields will be affected and this land cannot be classified higher than Grade 2

Subgrade 3a

23 The majority of the survey area has been classified as Subgrade 3a (good quality agricultural land) and is found in the north east and west of the site and a small unit in the extreme south east This land is affected by a soil wetness or soil droughtiness limitation

24 Subgrade 3a soils with a minor soil wetness limitation exhibit gleying within and below 40 cm with a slowly permeable layer beginning in the upper or lower subsoil This degree of wetness places these soils in Wetness Class III or IV depending on the depth to the slowly permeable layer and restricts this land to Subgrade 3a This limitation will restrict the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock as well as adversely affecting crop growth and development

25 Some of the Subgrade 3a land in the east experiences a minor soil droughtiness limitation Pit 1 is typical of these soils and describes a deep fine loamy sand profile with little evidence of stones and with good structural conditions in the lower subsoil This combination of textures and structures has the effect of reducing the total amount of moisture available to the crop Consequently moisture balance calculations for the local climate restrict the land quality to no higher than Subgrade 3a

Subgrade 3b

26 The remainder of the survey area has been classified as Subgrade 3b (moderate quality agricultural land) and is mapped in the south and east The principal limitations are soil wetness soil droughtiness or topsoil stone content

27 Typical soil profiles for Subgrade 3b land with a soil wetness limitation comprise deep stoneless loam (MCL or MZCL) topsoils These pass into gleyed stoneless to slightly stony heavier textured loam (HCL) subsoils The lower subsoils contain stoneless clays or become impenetrable through the presence of stony layers

29 The presence of gleying within 40 cm and a slowly permeable layer in the upper or lower subsoil indicates a moderate wetness limitation The structure of the heavy clay loam and clay in Pits 2 and 3 was assessed as weakly developed subangular blocky This degree of wetness places the soils in Wetness Class IV and limits this land to Subgrade 3b This limitation will restrict plant growth or imposes restrictions on cultivations or grazing by livestock Excessive soil wetness adversely affects seed germination and survival partly by a reduction in soil temperature and partly because of anaerobism

30 Soil profiles land with a moderate soil droughtiness limitation are represented by Pit 5 Here medium clay loam topsoils overlie stony fine sandy silt loam subsoils which pass into gravel from approximately 68cm This creates a significant limitation on the amount of water that is available for extraction during critical times of the growing season Consequently the level and consistency of yields is affected

31 Some of the Subgrade 3b has topsoil stone contents in the range 20 25% Such contents will significantly increase production costs by causing extra wear and tear to implements and tyres and will also significantly reduce crop establishment and quality

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SOURCES OF REFERENCE

British Geological Survey (1973) *Sheet No* 315 *Southampton*
BGS London

Ministry of Agriculture Fisheries and Food (1988) *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land*
MAFF London

Met Office (1989) *Climatological Data for Agricultural Land Classification*
Met Office Bracknell

Soil Survey of England and Wales (1983) *Sheet 6 South East England*
SSEW Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*
SSEW Harpenden

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1 Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit soft fruit salad crops and winter harvested vegetables Yields are high and less variable than on land of lower quality

Grade 2 Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield cultivations or harvesting A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops The level of yield is generally high but may be lower or more variable than Grade 1 land

Grade 3 Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops the timing and type of cultivation, harvesting or the level of yield When more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2

Subgrade 3a Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops especially cereals or moderate yields of a wide range of crops including cereals grass oilseed rape potatoes sugar beet and the less demanding horticultural crops

Subgrade 3b Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year

Grade 4 Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields It is mainly suited to grass with occasional arable crops (e g cereals and forage crops) the yields of which are variable In moist climates yields of grass may be moderate to high but there may be difficulties in utilisation The grade also includes very droughty arable land

Grade 5 Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing except for occasional pioneer forage crops

APPENDIX II

SOIL DATA

Contents

SOIL PROFILE DESCRIPTIONS EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database This uses notations and abbreviations as set out below

Boring Header Information

1 **GRID REF** national 100 km grid square and 8 figure grid reference

2 **USE** Land use at the time of survey The following abbreviations are used

ARA	Arable	**WHT**	Wheat	**BAR**	Barley
CER	Cereals	**OAT**	Oats	**MZE**	Maize
OSR	Oilseed rape	**BEN**	Field beans	**BRA**	Brassicae
POT	Potatoes	**SBT**	Sugar beet	**FCD**	Fodder crops
LIN	Linseed	**FRT**	Soft and top fruit	**FLW**	Fallow
PGR	Permanent pasture	**LEY**	Ley grass	**RGR**	Rough grazing
SCR	Scrub	**CFW**	Coniferous woodland	**OTH**	Other
DCW	Deciduous woodland	**BOG**	Bog or marsh	**SAS**	Set Aside
HTH	Heathland	**HRT**	Horticultural crops	**PLO**	Ploughed

3 **GRDNT** Gradient as estimated or measured by a hand held optical clinometer

4 **GLEY/SPL** Depth in centimetres (cm) to gleying and/or slowly permeable layers

5 **AP (WHEAT/POTS)** Crop adjusted available water capacity

6 **MB (WHEAT/POTS)** Moisture Balance (Crop adjusted AP crop adjusted MD)

7 **DRT** Best grade according soil droughtiness

8 If any of the following factors are considered significant 'Y will be entered in the relevant column

MREL	Microrelief limitation	**FLOOD**	Flood risk	**EROSN**	Soil erosion risk
EXP	Exposure limitation	**FROST**	Frost prone	**DIST**	Disturbed land
CHEM	Chemical limitation				

9 **LIMIT** The main limitation to land quality The following abbreviations are used

OC	Overall Climate	**AE**	Aspect	**ST**	Topsoil Stoniness
FR	Frost Risk	**GR**	Gradient	**MR**	Microrelief
FL	Flood Risk	**TX**	Topsoil Texture	**DP**	Soil Depth
CH	Chemical	**WE**	Wetness	**WK**	Workability
DR	Drought	**ER**	Erosion Risk	**WD**	Soil Wetness/Droughtiness
EX	Exposure				

Soil Pits and Auger Borings

1 **TEXTURE** soil texture classes are denoted by the following abbreviations

S	Sand	**LS**	Loamy Sand	**SL**	Sandy Loam
SZL	Sandy Silt Loam	**CL**	Clay Loam	**ZCL**	Silty Clay Loam
ZL	Silt Loam	**SCL**	Sandy Clay Loam	**C**	Clay
SC	Sandy Clay	**ZC**	Silty Clay	**OL**	Organic Loam
P	Peat	**SP**	Sandy Peat	**LP**	Loamy Peat
PL	Peaty Loam	**PS**	Peaty Sand	**MZ**	Marine Light Silts

For the sand loamy sand sandy loam and sandy silt loam classes the predominant size of sand fraction will be indicated by the use of the following prefixes

F Fine (more than 66 / of the sand less than 0 2mm)
M Medium (less than 66% fine sand and less than 33% coarse sand)
C Coarse (more than 33 / of the sand larger than 0 6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content
M Medium (<27% clay) **H** Heavy (27 35% clay)

2 **MOTTLE COL** Mottle colour using Munsell notation

3 **MOTTLE ABUN** Mottle abundance expressed as a percentage of the matrix or surface described

F few <2% **C** common 2 20% **M** many 20-40% **VM** very many 40 % +

4 **MOTTLE CONT** Mottle contrast

F faint indistinct mottles evident only on close inspection
D distinct mottles are readily seen
P prominent mottling is conspicuous and one of the outstanding features of the horizon

5 **PED COL** Ped face colour using Munsell notation

6 **GLEY** If the soil horizon is gleyed a Y will appear in this column If slightly gleyed an S will appear

7 **STONE LITH** Stone Lithology one of the following is used

HR	all hard rocks and stones	**FSST**	soft fine grained sandstone
ZR	soft argillaceous or silty rocks	**CH**	chalk
MSST	soft medium grained sandstone	**GS**	gravel with porous (soft) stones
SI	soft weathered igneous/metamorphic rock	**GH**	gravel with non porous (hard) stones

Stone contents (>2cm >6cm and total) are given in percentages (by volume)

8 **STRUCT** the degree of development size and shape of soil peds are described using the following notation

Degree of development	**WK**	weakly developed	**MD**	moderately developed
	ST	strongly developed		
Ped size	**F**	fine	**M**	medium
	C	coarse		
Ped shape	**S**	single grain	**M**	massive
	GR	granular	**AB**	angular blocky
	SAB	sub angular blocky	**PR**	prismatic
	PL	platy		

9 **CONSIST** Soil consistence is described using the following notation

L loose **VF** very friable **FR** friable **FM** firm **VM** very firm
EM extremely firm **EH** extremely hard

10 **SUBS STR** Subsoil structural condition recorded for the purpose of calculating profile droughtiness **G** good **M** moderate **P** poor

11 **POR** *Soil porosity If a soil horizon has less than 0 5 % biopores >0 5 mm a 'Y' will appear in this* column

12 **IMP** If the profile is impenetrable to rooting a 'Y will appear in this column at the appropriate horizon

13 **SPL** Slowly permeable layer If the soil horizon is slowly permeable a 'Y will appear in this column

14 **CALC** If the soil horizon is calcareous a 'Y will appear in this column

15 Other notations

APW available water capacity (in mm) adjusted for wheat
APP available water capacity (in mm) adjusted for potatoes
MBW moisture balance wheat
MBP moisture balance potatoes

SOIL PIT DESCRIPTION

Site Name T VALLEY LP ROMSEY 86 91 Pit Numbe 1P

G id Reference SU38302130 Ave age A 1 R f 11 817 mm
Accumulated Tempe ature 1519 degree days
F eld Capacity Level 175 days
Land Use Ploughed
Slope nd Aspect 01 degrees E

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 33	LFS	10YR42 00	0	2	HR					
33- 58	LFS	10YR54 56	0	0			MDVCAB	FM	M	
58-120	LFS	25Y 74 00	0	0		C	MDVCAB	FR	G	

Wetness Grade 1 Wetness Cl ss I
Gleying 058 cm
SPL No SPL

Drought G ade 3A APW 99 mm MBW 9 mm
APP 103mm MBP 1 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

S te Name T VALLEY LP ROMSEY 86 91 P t N mbe 2P

Gr d Reference SU38102090 A er ge Ann al Rai f 11 817 mm
Acc mulated Tempe ature 1519 degree days
Field Capa ty Level 175 day
Land Use Ploughed
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES	2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 30	MCL	10YR42 00	24		41	HR					
30 40	MCL	10YR32 00	0		41	HR		WKCSAB	FR	M	
40 72	C	10YR53 00	0		15	HR	M	WKCSAB	FM	P	
72 100	LFS	25Y 62 00	0		0		M	MDCAB	FR	G	
100 120	C	05Y 71 00	0		5	HR	M	MDVCAB	FM	P	

Wet ess G ade 3A Wetness Class III
Gley ng 040 cm
SPL 040 cm

Drought G ade 3A APW 117mm MBW 9 mm
APP 77 mm MBP 25 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Top oil Sto ness

SOIL PIT DESCRIPTION

Site Name T VALLEY LP ROMSEY 86 91 Pit N mber 3P

Grid Reference SU38102090 Average Ann al Rainfall 817 mm
Accumulated Temperature 1519 degree days
Field Capacity Level 175 d ys
Land Use Ploughed
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 30	MCL	10YR42 00	24	34	HR					
30 40	MCL	10YR32 00	0	40	HR		WKCSAB	FR	M	
40 72	C	10YR53 00	0	12	HR	M	WKCSAB	FM	P	
72 120	C	05Y 71 00	0	5	HR	M	MDVCAB	FM	P	

Wetness Grade 3A Wetness Class III
Gleying 040 cm
SPL 040 cm

Drought G d 3A APW 104mm MBW 4 mm
APP 81 mm MBP 21 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Topsoil Sto iness

SOIL PIT DESCRIPTION

S te Name T VALLEY LP ROMSEY 86 91 Pit N mber 4P

G id R ference SU37702130 A erage Ann al Rainfall 817 mm
Accumulated Tempe ture 1519 degree days
F eld Capacity Level 175 days
Land Use Ploughed
Slope and Aspect degree

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 29	MZCL	10YR42 00	1	3	HR					
29 53	MCL	10YR54 56	0	2	HR		MDCSAB	FR	M	
53 64	HCL	10YR54 00	0	2	HR	C	MDCSAB	FR	M	
64 78	HCL	10YR42 52	0	5	HR	M	WKCSAB	FR	M	
78 88	HCL	10YR42 52	0	45	HR	C		FM	P	

Wetness Grade 2 Wetness Cla s II
Gl y ng 064 cm
SPL 064 cm

Dro ght G de 2 APW 118mm MBW 10 mm
APP 118mm MBP 16 mm

FINAL ALC GRADE 2
MAIN LIMITATION Dro ghtiness

SOIL PIT DESCRIPTION

S te Name T VALLEY LP ROMSEY 86 91 Pit Numbe 5P

G id Reference SU38052045 A e age A n al Rainfall 817 mm
Accumulated Tempe ture 1519 degree days
Field Capacity Level 175 days
Land Use Fallow
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES	2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 25	MCL	10YR41 00	8		35	HR					
25- 48	FSZL	10YR54 56	0		39	HR				M	
48 68	FSZL	10YR54 00	0		63	HR				M	
68 80	GH	00ZZ00 00	0		0					M	

Wetness G ade 1 Wetness Cl s I
Gleying cm
SPL No SPL

Drought Grade 3B APW 74 mm MBW 34 mm
APP 78 mm MBP 24 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtines

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	WETNESS CLASS	WETNESS GRADE	WHEAT AP	WHEAT MB	POTS AP	POTS MB	M REL DRT	EROSN FLOOD	FROST EXP	CHEM DIST	ALC LIMIT		COMMENTS
1	SU37402140	PGR	NE	03	025	025	4	3B	85	23	91	11	3B				WE	3B	PLSTIC25
1P	SU38302130	PLO	E	01	058		1	1	99	9	103	1	3A				DR	3A	Q MSAND
2	SU37502140	PGR	NW	05	055	072	2	1	127	19	101	1	2				DR	2	FIRM C72
2P	SU38102090	PLO			040	040	3	3A	117	9	77	25	3A				TS	3B	SEE3P
3P	SU38102090	PLO			040	040	3	3A	104	-4	81	21	3A				TS	3B	
4	SU37702140	PGR			055		1	1	90	18	95	7	3A				DR	3A	IMPFLINTS60
4P	SU37702130	PLO			064	064	2	2	118	10	118	16	2				DR	2	IMPPIT88
5	SU37802140	MZE			030	043	4	3A	107	1	113	11	3A				WE	3A	IMPFLINTS80
5P	SU38052045	FAL					1	1	74	34	78	24	3B				DR	3B	
7	SU37402130	PGR	SE	05			1	1	139	31	112	10	1					1	JUST GR1
8	SU37502130	PGR					1	1	44	64	44	58	4				DR	3B	IMPFLINTS30
9	SU37602130	PLO			030		2	1	74	34	74	28	3B				DR	3B	IMPFLINTS50
10	SU37702130	PLO			038	038	4	3A	110	2	109	7	3A				WE	3A	IMPFLINTS90
11	SU37802130	PGR	SE	02	028		2	2	62	46	62	40	3B				DR	3A	IMPFLINTS40
12	SU37302120	PLO			030	075	3	3A	124	16	115	13	2				WE	3A	IMP 100QS50
14	SU37502120	PLO			030	070	3	2	139	31	119	17	1				WE	2	
16	SU37702120	PLO	E	02	050		1	1	74	34	55	47	3B				DR	3B	
17	SU37802120	PGR					1	1	81	27	83	19	3B				DR	3A	IMPFLINTS55
19	SU37602110	PLO			050	050	3	3A	103	5	111	9	3A				WE	3A	IMPFLINTS75
20	SU37702110	PLO			070	070	2	2	119	11	120	18	2				WD	2	IMPFLINTS90
21	SU37802110	PLO			050	050	3	3A	135	27	112	10	2				WE	3A	
23	SU37602100	PLO			025	065	3	3A	120	12	113	11	2				WE	3A	
25	SU37802100	PLO	SW	01	038	065	3	3A	114	6	113	11	2				WE	3A	IMPFLINTS90
27	SU37702090	PGR			045		1	1	104	4	106	4	3A				DR	3A	IMPFLINTS80
29	SU37502130	PGR			060	060	3	3A	102	6	109	7	3A				WE	3A	IMPFLINTS75
31	SU37702130	PLO			025	075	2	2	110	2	115	13	3A				DR	3A	IMPFLINTS80
33	SU37902130	PLO			025	085	2	2	143	35	116	14	1				WE	2	
35	SU38102130	PLO			033	075	3	3A	126	18	117	15	2				WE	3A	
37	SU38302130	PLO	E	01	060		1	1	109	1	79	23	3A				DR	3A	
39	SU37402120	PGR			030	055	3	3A	127	19	104	2	2				WE	3A	
41	SU37602120	PLO			050	070	2	2	120	12	113	11	2				WD	2	IMPFLINTS100
43	SU37802120	PLO			055		1	1	128	20	110	8	2				DR	2	IMPFLINTS105
45	SU38002120	PLO			028	065	3	2	140	32	117	15	1				WE	2	
47	SU38152120	PLO	E	01	025	040	4	3A	129	21	109	7	2				WE	3A	
49	SU37502110	PGR					1	1	104	4	115	13	3A				DR	2	IMPFLINTS70
51	SU37702110	PGR			045	045	3	3A	102	6	112	10	3A				WE	3A	IMPFLINTS70
53	SU37902110	PLO	W	01	028	028	4	3B	140	32	115	13	1				WE	3B	
55	SU38102110	PLO	W	01	038	080	2	2	123	15	114	12	2				WD	2	BDR3A
57	SU38302110	PLO	W	01	042	042	3	3A	141	33	120	18	1				WE	3A	
59	SU37602100	PGR					1	1	89	19	92	10	3A				DR	3A	IMPFLINTS55
61	SU37802100	PGR			055	055	3	3A	93	15	99	3	3A				WD	3A	IMPFLINTS65
63	SU38002100	PLO			028	050	3	3A	128	20	111	9	2				WE	3A	

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	WETNESS CLASS	WHEAT GRADE	POTS AP	POTS MB	M REL AP	M REL MB	DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
64	SU38102110	PLO					4	3B	127	19	104	2	2				WE	3B	
65	SU38202100	PLO	W	01	028	028	4	3B	77	31	78	24	3B				WE	3B	
66	SU38302100	PLO	W	01	025	025	4	3B	105	3	101	1	3A				WE	3B	
68	SU37702090	PGR			065		1	1	101	7	111	9	3A				DR	3A	IMPFLINTS65
70	SU37902090	PLO					1	1	41	67	41	61	4				WS	3B	
72	SU38102090	PLO	W	01	032		4	3B	47	61	47	55	4				WS	3B	
74	SU38302090	PLO			035	035	4	3B	129	21	119	17	2				WE	3B	
75	SU37652080	HOR					1	1	45	63	45	57	4				DS	3B	
77	SU38002080	PLO	W	01	055	055	3	3A	99	9	109	7	3A				WD	3A	
79	SU38202080	PLO	W	01	028	028	4	3B	124	16	103	1	2				WE	3B	
81	SU37602065	HOR					1	1	65	43	65	37	3B				DR	3B	
83	SU38302070	PLO			028	040	4	3B	136	28	127	25	2				WE	3B	
85	SU38202060	PGR			035	035	4	3B	81	27	87	15	3B				WE	3B	
86	SU38352065	PLO			028	028	4	3B	86	22	96	6	3B				WE	3B	
90	SU38302050	RGR					1	1	69	39	69	33	3B				DR	3B	IMPFLINTS50
93	SU38002040	RGR					1	1	49	59	49	53	4				DR	3B	IMPFLINTS30
95	SU38202040	SAS			020	020	4	3B	76	32	82	20	3B				WE	3B	
98	SU37902030	RGR			012	012	4	3B	69	39	69	33	3B				WE	3B	
100	SU38102030	SAS					1	1	44	64	44	58	4				DR	3B	IMPFLINTS30
102	SU38302030	RGR	E	01			2	1	125	17	81	21	3A				DR	3A	
103	SU38102020	SAS					1	1	44	64	44	58	4				DR	3B	IMPFLINTS30
104	SU38202020	RGR	E	02	077	100	1	1	122	14	85	17	3A				DR	3A	
105	SU37952065	RGR					1	1	71	37	71	31	3B				DR	3B	IMPFLINTS48

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES- COL	ABUN	CONT	PED COL	GLEY	- STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1	0 25	mcl	10YR42 00						0	0		0						
	25-60	c	25Y 61 71	10YR68 00	M			Y	0	0		0		P			Y	
1P	0-33	lfs	10YR42 00						0	0	HR	2						
	33-58	lfs	10YR54 56						0	0		0	MDVCAB	FM M				
	58 120	lfs	25Y 74 00	10YR68 00	C			Y	0	0		0	MDVCAB	FR G				
2	0 30	msl	10YR42 00						2	0	HR	15						
	30 45	msl	10YR58 00						0	0	HR	15		M				
	45-55	msl	10YR58 00						0	0		0		M				
	55 72	scl	25Y 53 00	10YR68 00	M			Y	0	0		0		M				
	72 120	c	05Y 61 62	05YR58 68	M			Y	0	0		0		FM P			Y	
2P	0 30	mcl	10YR42 00						24	4	HR	41						
	30 40	mcl	10YR32 00						0	0	HR	41	WKCSAB	FR M				
	40 72	c	10YR53 00	75YR68 00	M			Y	0	0	HR	15	WKCSAB	FM P			Y	
	72 100	lfs	25Y 62 00	75YR68 00	M			Y	0	0		0	MDCAB	FR G				
	100 120	c	05Y 71 00	75YR68 00	M			Y	0	0	HR	5	MDVCAB	FM P			Y	
3P	0 30	mcl	10YR42 00						24	4	HR	34						
	30 40	mcl	10YR32 00						0	0	HR	40	WKCSAB	FR M				
	40 72	c	10YR53 00	75YR68 00	M			Y	0	0	HR	12	WKCSAB	FM P			Y	
	72 120	c	05Y 71 00	75YR68 00	M			Y	0	0	HR	5	MDVCAB	FM P			Y	
4	0 28	mcl	10YR42 43						0	0	HR	5						
	28 45	mcl	10YR44 54						0	0	HR	5		M				
	45 55	mcl	10YR54 53	10YR56 00	F				0	0	HR	5		M				
	55 60	hcl	10YR52 00	10YR56 00	C			Y	0	0	HR	30		M				IMPFLINTS60
4P	0 29	mzcl	10YR42 00						1	0	HR	3						
	29 53	mcl	10YR54 56						0	0	HR	2	MDCSAB	FR M				
	53 64	hcl	10YR54 00	10YR56 58	C			S	0	0	HR	2	MDCSAB	FR M				
	64 78	hcl	10YR42 52	75YR58 00	M			Y	0	0	HR	5	WKCSAB	FR M	Y		Y	
	78 88	hcl	10YR42 52	75YR58 00	C			Y	0	0	HR	45		FM P			Y	
5	0 30	fs l	10YR42 00						5	0	HR	12						
	30 43	mcl	10YR52 62	10YR56 00	C			Y	0	0	HR	5		M				
	43 65	c	25Y 53 00	10YR58 00	M			Y	0	0		0		P			Y	
	65 75	c	05Y 62 00	75YR56 00	M			Y	0	0	HR	5		P			Y	
	75 80	c	05Y 62 00	25YR56 00	C			Y	0	0	HR	25		P			Y	
5P	0 25	mcl	10YR41 00						8	0	HR	35						
	25-48	fszl	10YR54 56						0	0	HR	39		M				
	48 68	fszl	10YR54 00						0	0	HR	63		M				
	68 80	gh	00ZZ00 00						0	0		0		M				
7	0 28	mszl	10YR43 00						2	0	HR	12						
	28-45	mcl	10YR58 00						0	0	HR	10		M				
	45-70	hcl	10YR58 00						0	0		0		M				
	70 120	c	10YR58 00						0	0	HR	3		M				

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES- 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
8	0 30	msl	10YR31 21						5	0	HR	15							IMPFLINTS30
9	0 30	mszl	10YR31 00						3	0	HR	10							
	30 45	mszl	25Y 52 00	10YR56 00	C			Y	0	0	HR	35		M					
	45-50	mcl	25Y 52 00	10YR56 00	C			Y	0	0	HR	40		M					IMPFLINTS50
10	0 38	mszl	10YR31 00						1	0	HR	5							
	38-60	c	25Y 53 00	25YR58 00	M			Y	0	0	HR	5		P		Y			
	60 85	c	25Y 72 00	10YR58 00	M			Y	0	0	HR	3		P		Y			
	85-90	c	05Y 72 00	10YR68 00	M			Y	0	0	HR	25		P		Y			IMPFLINTS90
11	0 28	mcl	10YR42 00						2	0	HR	10							
	28 40	mcl	25Y 52 00	10YR58 00	C			Y	0	0	HR	15		M					IMPFLINTS40
12	0 30	mcl	10YR43 00						1	0	HR	5							
	30 50	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	3		M					
	50 75	hcl	25Y 53 00	10YR58 00	C			Y	0	0		0		M					
	75-95	c	25Y 62 00	10YR58 00	M			Y	0	0	HR	0		P		Y			
	95 100	c	25Y 62 00	10YR58 00	M			Y	0	0	HR	20		P		Y			IMPFLINTS100
14	0 30	ms l	10YR42 00						1	0	HR	3							
	30 55	mcl	10YR54 53	10YR56 00	C			Y	0	0		0		M					
	55 70	hcl	10YR62 00	10YR56 58	M			Y	0	0		0		M					
	70 120	c	25Y 71 00	10YR68 00	M			Y	0	0	HR	10		P		Y			
16	0 30	lms	10YR31 41						0	0	HR	3							
	30 50	lms	25Y 41 00	10YR46 00	F				0	0	HR	3		M					
	50 95	ms	25Y 63 00	10YR66 00	C			Y	0	0	HR	5		M					
	95 120	lms	25Y 63 00	10YR58 00	C			Y	0	0		0		M					
17	0 20	mzcl	10YR43 00						1	0	HR	5							
	20 50	mzcl	10YR44 00						0	0	HR	20		M					
	50 55	hcl	10YR56 00						0	0	HR	35		M					IMPFLINTS55
19	0 30	mzcl	10YR44 00						1	0	HR	5							
	30 50	mzcl	10YR58 00						0	0	HR	5		M					
	50 75	c	10YR53 00	75YR56 58	M			Y	0	0	HR	8		P		Y			IMPFLINTS55
20	0 25	mzcl	10YR44 43						1	0	HR	5							
	25-40	mzcl	10YR58 00						0	0	HR	3		M					
	40 70	hzcl	10YR58 00						0	0	HR	3		M					
	70 90	c	10YR52 00	75YR56 58	M			Y	0	0	HR	5		P		Y			IMPFLINTS90
21	0 20	mzcl	10YR44 00						1	0	HR	5							
	20 35	mzcl	10YR44 46						0	0	HR	5		M					
	35 50	hzcl	10YR44 46						0	0		0		M					
	50 120	c	10YR52 00	75YR56 00	M			Y	0	0		0		P		Y			

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
23	0 25	mcl	10YR42 00						2	0	HR	5							
	25-35	mcl	10YR53 52	10YR56 00	C			Y	0	0		0		M					
	35-65	hcl	25Y 52 00	10YR56 66	M			Y	0	0		0		M					V WET 60 65
	65-100	c	25Y 51 00	75YR68 00	M			Y	0	0	HR	10		P		Y			FIRM
25	0 30	mcl	10YR42 00						1	0	HR	5							
	30 38	mcl	10YR42 43	10YR56 00	F				0	0	HR	5		M					
	38 65	hcl	25Y 53 00	10YR58 00	C			Y	0	0		0		M					
	65-90	c	05Y 62 00	25YR58 00	C			Y	0	0	HR	10		P		Y			
27	0 33	mcl	10YR42 00						2	0	HR	10							
	33-45	mcl	10YR44 00						0	0	HR	20		M					
	45-60	mcl	10YR54 53	10YR56 00	C			Y	0	0	HR	10		M					
	60 80	mcl	10YR54 53	10YR56 58	C			Y	0	0	HR	10		M					IMPFLINTS80
29	0 25	mzcl	10YR43 00						2	0	HR	8							
	25 45	mzcl	10YR44 00						0	0	HR	8		M					
	45 60	hcl	10YR56 00						0	0	HR	8		M					
	60 75	c	10YR53 00	75YR56 00	M			Y	0	0	HR	10		P					
31	0 25	mcl	10YR43 00						1	0	HR	5							
	25 65	hcl	10YR44 54	10YR56 00	C			S	0	0		0		M					
	65 75	hcl	10YR54 53	10RY56 00	C			Y	0	0	HR	5		M					
	75-80	c	10YR53 52	10YR58 00	C			Y	0	0	HR	30		P					
33	0 25	mcl	10YR44 54						0	0	HR	2							
	25-85	hcl	10YR74 00	10YR58 68	M		00MN00 00	Y	0	0		0		M					
	85 120	c	25Y 61 00	10YR58 00	M			Y	0	0	HR	5		P		Y			
35	0 33	mcl	10YR43 53						0	0	HR	3							
	33 55	mcl	10YR63 62	10YR56 00	C		00MN00 00	Y	0	0		0		M					
	55 75	hcl	25Y 62 00	10YR58 00	M		00MN00 00	Y	0	0		0		M					
	75 100	c	25Y 61 00	10YR68 00	M			Y	0	0	HR	10		P		Y			FIRM
37	0 30	msl	10YR41 00						0	0	HR	2							
	30 60	lms	10YR54 56						0	0		0		M					
	60 75	lms	25Y 53 63	10YR66 00	C			Y	0	0		0		M					
	75-100	lms	25Y 72 00	10YR68 00	C			Y	0	0		0		M					
	100 120	msl	25Y 74 00	75YR56 00	C			Y	0	0	HR	5		M					
39	0 30	mzcl	10YR42 00						2	0	HR	10							
	30 45	mcl	10YR44 54	10YR56 00	C			S	0	0	HR	15		M					
	45 55	hcl	10YR52 00	10YR58 00	M			Y	0	0	HR	10		M					
	55 85	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	15		P		Y			
	85 120	c	25Y 62 00	75YR58 00	M			Y	0	0		0		P		Y			
41	0 30	mcl	10YR43 00						1	0	HR	5							
	30 50	mcl	10YR44 54	10YR56 00	F				0	0	HR	3		M					
	50 70	hcl	10YR54 00	10YR56 00	C			S	0	0	HR	5		M					
	70 95	hcl	10YR52 53	10YR56 00	C			Y	0	0	HR	10		P		Y			
	95 100	hcl	10YR52 53	10YR56 00	C			Y	0	0	HR	35		P		Y			IMPFLINTS100

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
43	0 30	mcl	10YR42 00						2	0	HR	10							
	30 55	mcl	10YR44 54	10YR56 00	F		00MN00 00		0	0	HR	5		M					
	55-90	mcl	10YR52 62	10YR56 00	C		00MN00 00	Y	0	0	HR	5		M					
	90 105	hcl	25Y 62 00	10YR58 00	M		00MN00 00	Y	0	0	HR	30		M					IMPFLINTS105
45	0 28	mszl	10YR43 00						0	0	HR	3							
	28-45	mcl	10YR62 00	10YR56 00	C			Y	0	0		0		M					
	45-65	mcl	25Y 62 00	10YR68 00	C			Y	0	0		0		M					
	65-120	c	25Y 61 00	10YR58 68	M			Y	0	0		0		P			Y		
47	0 25	mszl	10YR42 00						0	0	HR	3							
	25 40	mcl	10YR53 54	10YR56 00	C			Y	0	0		0		M					
	40 70	c	25Y 52 00	10YR58 00	M			Y	0	0		0		P			Y		
	70 120	c	05Y 53 63	75YR58 00	M			Y	0	0	HR	10		P			Y		
49	0 25	mzcl	10YR43 00						1	0	HR	5							
	25 50	mzcl	10YR44 00						0	0	HR	5		M					
	50 70	hcl	10YR56 00						0	0	HR	10		M					IMPFLINTS70
51	0 30	mzcl	10YR43 00						1	0	HR	5							
	30 45	hcl	10YR54 00	00MN00 00	F				0	0	HR	5		M					
	45-65	hcl	10YR52 54	10YR56 00	C			Y	0	0	HR	10		M			Y		
	65-70	hcl	10YR52 54	10YR56 00	C			Y	0	0	HR	30		M			Y		IMPFLINTS70
53	0 28	mcl	10YR42 00						0	0	HR	2							
	28 80	hcl	25Y 63 00	10YR58 00	C			Y	0	0	HR	2		M			Y		
	80 120	c	25Y 62 74	75Y 56 00	M			Y	0	0	HR	5		P			Y		
55	0 30	hcl	10YR32 00						1	0	HR	3							
	30 38	mcl	10YR42 00						0	0	HR	1		M					
	38-80	mcl	25Y 72 00	25Y 66 00	C			Y	0	0	HR	5		M					
	80 100	c	25Y 72 00	75Y 66 00	M			Y	0	0	HR	20		P			Y		
57	0 28	fs l	10YR42 00						1	0	HR	1							
	28 42	mcl	10YR54 00		F				0	0	HR	2		M					
	42 52	hcl	10YR53 54	10YR56 00	C			Y	0	0	HR	2		M			Y		
	52 120	c	05GY71 00	05Y 46 00	M			Y	0	0	HR	10		P			Y		
59	0 25	mzcl	10YR43 00						1	0	HR	5							
	25 40	mzcl	10YR44 00						0	0	HR	5		M					
	40 55	mcl	10YR44 00						0	0	HR	8		M					IMPFLINTS55
61	0 33	mcl	10YR43 00						1	0	HR	5							
	33-55	mcl	10YR54 56						0	0	HR	5		M					
	55 65	hcl	10YR53 54	10YR56 00	C			Y	0	0	HR	25		P					IMPFLINTS65
63	0 28	mcl	10YR42 00						0	0	HR	2							
	28 50	mzcl	10YR52 72	10YR56 00	C			Y	0	0	HR	2		M					
	50 60	hcl	10YR62 53	10YR56 00	C			Y	0	0		0		P			Y		
	60 110	c	05GY61 00	05YR46 00	M			Y	0	0		0		P			Y		

				-MOTTLES			PED		STONES				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
64	0 32	mcl	10YR31 00						7	0	HR	12				N	N	
	32 45	hcl	10YR52 00	10YR56 00	C			Y	0	0		0		M		N	N	
	45-120	c	05GY61 00	05YR46 00	M			Y	0	0		0		P		N	Y	
65	0 28	mzcl	10YR42 00						0	0	HR	2						
	28 50	hcl	10YR63 00	10YR56 00	C			Y	0	0	HR	10		P			Y	
	50 52	hcl	10YR63 00	10YR56 00	C			Y	0	0	HR	35		P			Y	IMPFLINTS52
66	0 25	mzcl	10YR42 00						0	0	HR	1						
	25-75	hcl	05Y 63 00	10YR56 00	C			Y	0	0	HR	1		P			Y	
	75 90	c	05GY71 00	05Y 46 00	M			Y	0	0	HR	1		P			Y	
68	0 30	mszl	10YR43 00						1	0	HR	5						
	30 45	mcl	10YR44 54	00MN00 00	F				0	0	HR	5		M				
	45 65	hcl	10YR54 56	00MN00 00	F				0	0	HR	5		M				
	65-68	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	30		M				IMPFLINTS68
70	0 30	mcl	10YR32 00						20	6	HR	36						TS STONES
	30 35	mcl	10YR62 00						0	0	HR	40		M				IMPFLINTS35
72	0 32	mcl	10YR32 00						20	4	HR	34						TS STONES
	32 40	mcl	10YR62 00	10YR66 00	C			Y	0	0	HR	40		M				IMPFLINTS40
74	0 25	mz l	10YR42 00						0	0	HR	1						
	25 35	mcl	10YR54 00						0	0		0		M				
	35 75	hcl	10YR53 61	10YR56 00	C			Y	0	0		0		M			Y	
	75 100	c	05Y 62 00	10YR58 00	C			Y	0	0	HR	1		P			Y	
75	0 25	mcl	10YR42 00						20	0	HR	35						
	25 40	mcl	10YR44 00						0	0	HR	40		M				
77	0 32	mzcl	10YR43 00						0	0	HR	4						
	32 55	mcl	10YR54 00						0	0	HR	2		M				
	55 70	c	25Y 63 00	10YR56 00	C			Y	0	0	HR	30		P			Y	IMPFLINTS70
79	0 28	mzcl	10YR42 00						0	0	HR	1						
	28 70	h cl	10YR53 00	10YR58 00	M			Y	0	0	HR	1		P			Y	
	70 120	c	05GY71 00	05Y 46 00	M			Y	0	0	HR	5		P			Y	
81	0 30	mszl	10YR42 00						12	0	HR	25						
	30 50	mcl	10YR63 53						0	0	HR	35		M				IMPFLINTS50
83	0 28	l	10YR42 00						0	0	HR	1		M				
	28 40	mzcl	10YR53 00	10YR56 00	C			Y	0	0	HR	1		M				
	40 60	h cl	10YR53 00	10YR56 00	C			Y	0	0	HR	1		M			Y	
	60 100	hcl	05Y 62 00	10YR58 00	M			Y	0	0	HR	1		P			Y	IMPFLINTS100
85	0 35	mcl	10YR32 00						5	0	HR	10						
	35 60	c	10YR53 00	000C00 00	C			Y	0	0	HR	10		P	Y		Y	

				-MOTTLES			PED		STONES				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
86	0 28	mcl	10YR32 00						4	0	HR	10						
	28 45	c	10YR62 00	10YR68 00	C			Y	0	0	HR	4		P			Y	
	45-70	c	05Y 53 00	25YR48 00	M			Y	0	0	HR	10		P			Y	IMPFLINTS70
90	0 25	mcl	10YR32 00						5	0	HR	20						
	25 50	mcl	10YR42 00						0	0	HR	20		M				
93	0 30	mcl	10YR43 00						2	0	HR	10						
95	0 20	mcl	10YR43 00						2	0	HR	10						
	20 60	c	75YR53 00	000C00 00	M			Y	0	0	HR	5		P	Y		Y	
98	0 12	mcl	10YR42 00						5	0	HR	10						
	12 50	c	10YR53 00	000C00 00	C			Y	0	0	HR	1		P	Y		Y	
100	0 30	mcl	10YR42 00						5	0	HR	20						
102	0 33	msl	10YR41 42	75YR46 00	C			Y	0	0	HR	10						
	33 65	lms	25Y 62 00	10YR56 00	C			Y	0	0	HR	1		M				
	65-120	scl	05Y 52 53	10YR68 00	M			Y	0	0		0		M				
103	0 30	mcl	10YR42 00						5	0	HR	20						
104	0 28	msl	10YR43 00						0	0	HR	10						
	28 43	msl	10YR44 00						0	0	HR	1		M				
	43 77	lms	25Y 54 00						0	0		0		M				
	77 100	scl	05Y 63 00	75YR56 00	C			Y	0	0		0		M				
	100 120	sc	05Y 63 00	75YR56 00	M			Y	0	0		0		P			Y	
105	0 30	mcl	10YR43 00						2	0	HR	10						
	30 48	hcl	10YR53 00						0	0	HR	25		M				